Patentschrift 154064

(57) Calibrating bioimpedance functions is necessary in order to quantitatively evaluate and test diagnosis instruments. The invention was made with the aim of improving an already known solution by providing a new possibility to optionally generate either single or periodic changes in resistance, each such change being comprised of a change in capacitive and in ohmic resistance. The circuit arrangement is supposed to simulate total impedance, including skin/electrode interface resistance. According to fig. 1, this is realised by connecting a known circuit arrangement in parallel with three networks. In conjunction with a programme switch, this parallel connection provides for the different types of constant tissue impedance components. In addition to this, two serially connected networks, controlled by a programme timer, make up the dynamic components of tissue impedance. On each side, the serial connection for the simulation of tissue impedance is connected with the outputs of two networks representing skin/electrode interface resistance.

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(55) Calibration, bioimpedance function, circuit arrangement, cardiac impedance measurement, biological tissues, steplessly variable changes of impedance, long-term stability, financial costs, passive network, modulation stage, oscillator stage, skin/electrode interface impedances

(57) The circuit arrangement for calibrating bioimpedance functions is used to quantitatively evaluate and test bioimpedance-measuring instruments. The invention was made with the aim of providing a circuit arrangement which delivers perfectly reproducible calibration signals with good long-term stability. The financial costs compared to known solutions are reduced. The generation of changes of impedance in the region of physiological interest is steplessly variable with any time function and amplitude and is not bound to the use of a microcomputer. Here, a known modulation stage is interposed between the oscillator stage and the constant current stage, resulting in a modulated measurement current passing through the time-constant

passive network for simulating the basic tissue impedance. Multipoint calibration is achieved by switching this passive network or changing the modulation factor. Two further passive networks simulate the skin/electrode interface impedances of the current and measurement electrodes.